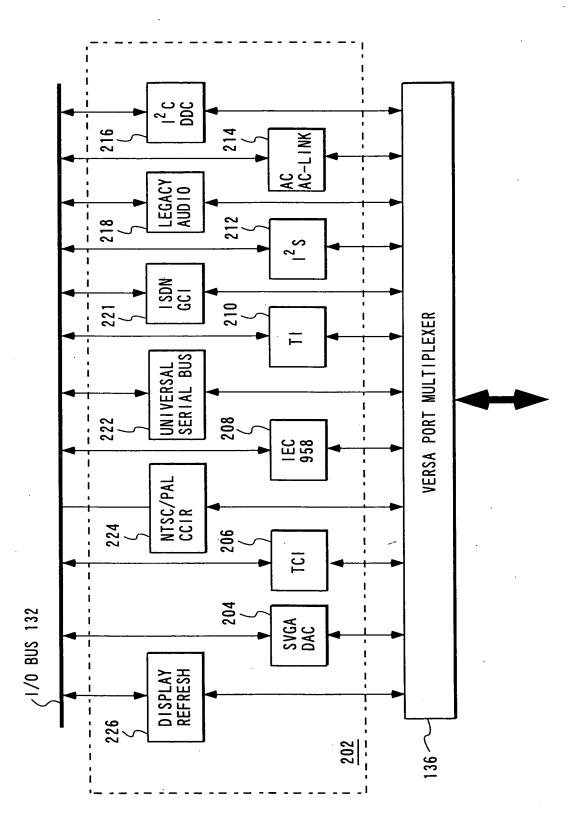


F1G. 1B



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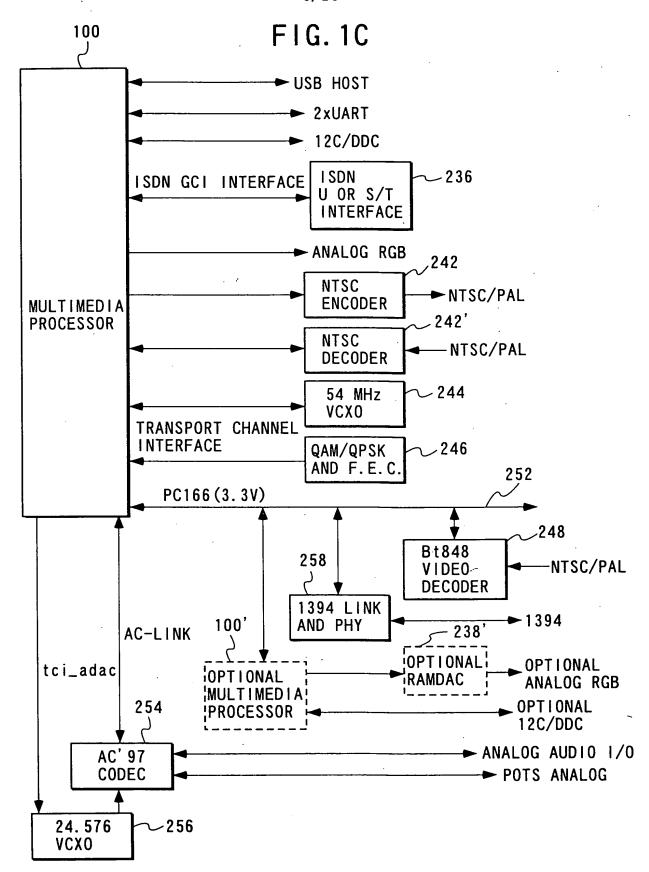
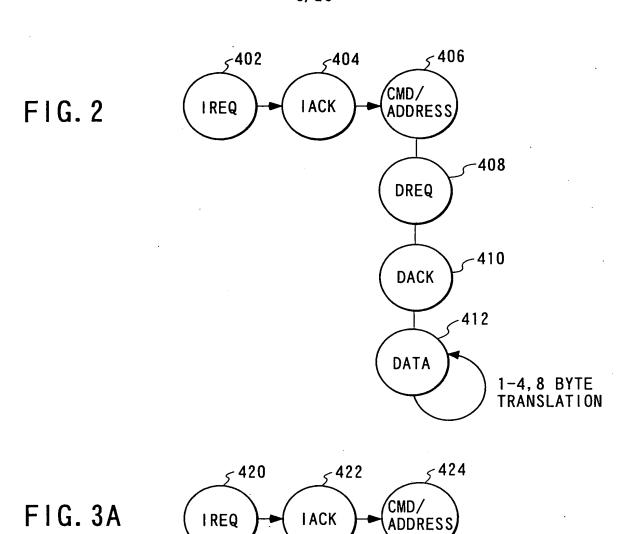
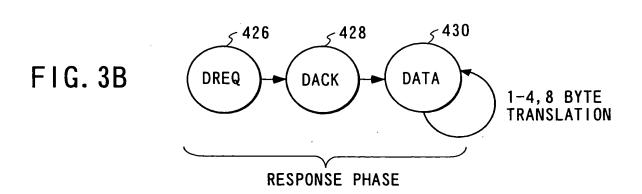


FIG. 1D 230 232 100 258 260 X86 AND ISA SOUTH NORTH AGP BRIDGE PCI BRIDGE ISA -234SOUND BLASTER AND COMM SB/COMM PORT ON VERSA-PORT MAPPER 12C/DDC -236ISDN ISDN GCI INTERFACE U OR S/T INTERFACE ANALOG RGB /238 MULTIMEDIA ccir 656 NTSC ►NTSC/PAL **PROCESSOR ENCODER** -240 NTSC ccir 656 -NTSC/PAL **DECODER ~244** 54 MHz **VCX0** TRANSPORT CHANNEL \_246 INTERFACE QAM/QPSK AND F.E.C PC166 (3.3V) -252 OPTIONAL -100' OPTIONAL ANALOG RGB 250 AC-LINK MULTIMEDIA OPTIONAL **PROCESSOR** 12C/DDC 1394 248 **►**1394 LINK/PHY tci\_adac Bt848 254 VIDE0 NTSC/PAL **DECODER** AC' 97 ► ANALOG AUDIO I/O CODEC ► POTS ANALOG **∼256** 24.576 **VCXO** 





SEND PHASE

## FIG. 4A

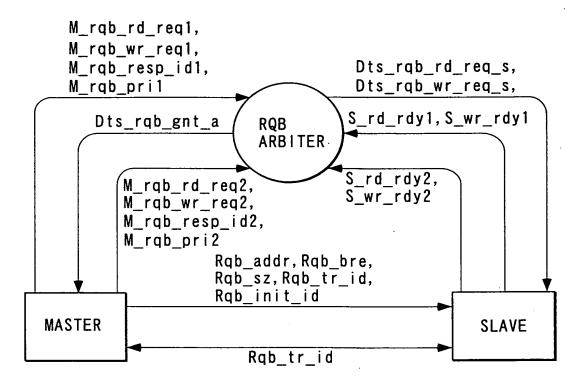
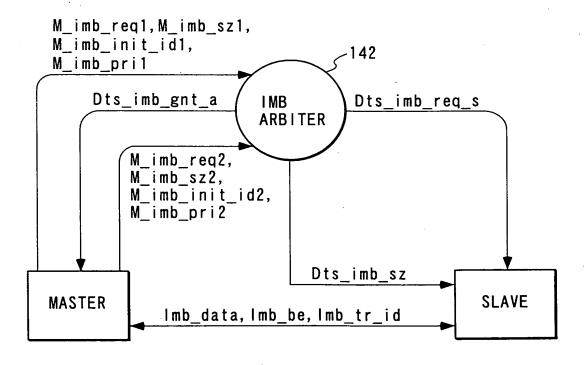
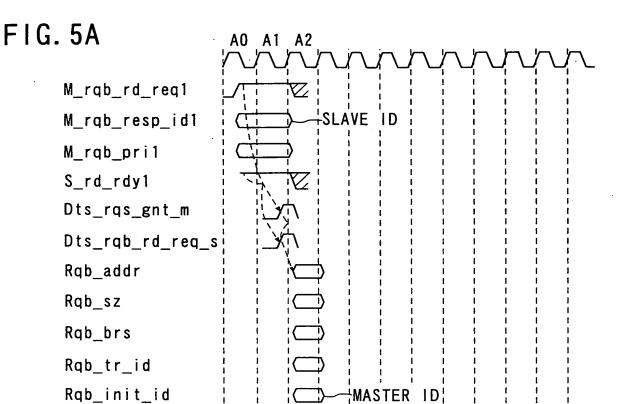


FIG. 4B





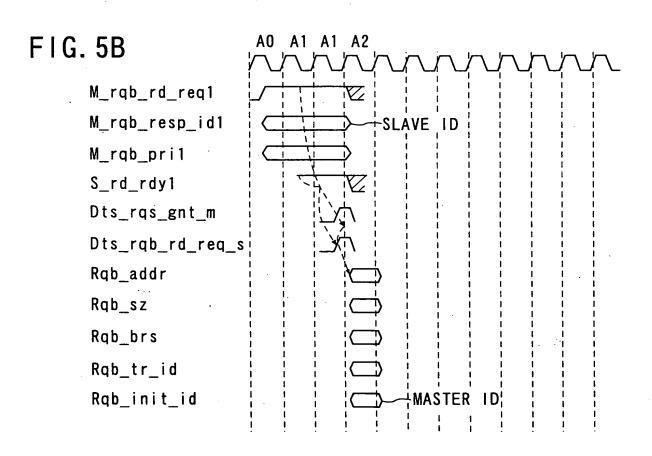


FIG. 5C

M\_rqb\_wr\_req1

M\_rqb\_resp\_id1

M\_rqb\_pri1

S\_wr\_rdy1

Dts\_rqs\_gnt\_m

Dts\_rqb\_wr\_req\_s

Rqb\_addr

Rqb\_tr\_id
Rqb\_init\_id

Rqb\_sz

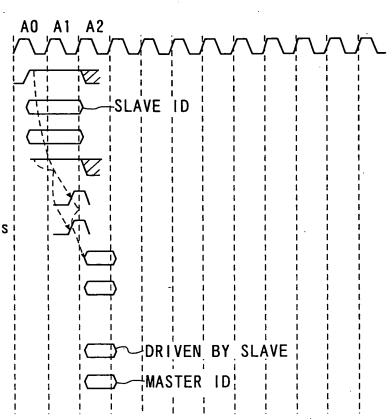


FIG. 5D

M\_imb\_req1

M\_imb\_init\_id1

M\_imb\_pri1

M\_imb\_sz1

Dts\_imb\_gnt\_m

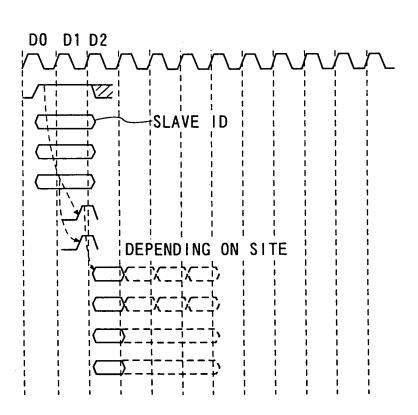
Dts\_imb\_req\_s

Imb\_data

Imb\_be

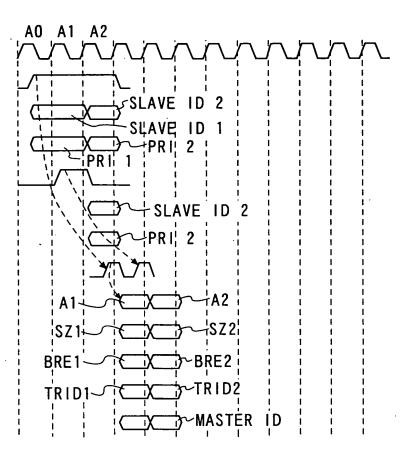
Imb\_tr\_id

Dts\_imb\_sz



# FIG. 6A

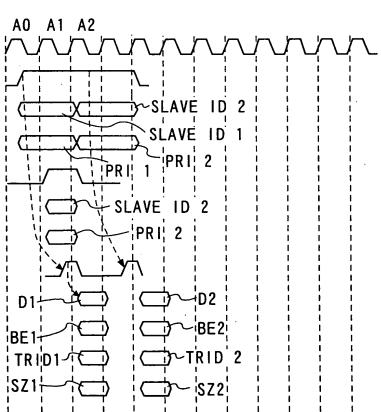
M\_rqb\_rd\_req1
M\_rqb\_resp\_id1
M\_rqb\_pri1
M\_rqb\_rd\_req2
M\_rqb\_resq\_id2
M\_rqb\_pri2
Dts\_rqb\_gnt\_m
Rqb\_addr
Rqb\_sz
Rqb\_bre
Rqb\_tr\_id
Rqb\_init\_id



## FIG. 6B

M\_pmb\_req1
M\_pmb\_init\_id1
M\_pmb\_pri1
M\_pmb\_req2
M\_pmb\_init\_id2
M\_pmb\_pri2
Dts\_pmb\_gnt\_m
Pmb\_data
Pmb\_be
Pmb\_tr\_id

Dts\_pmb\_sz



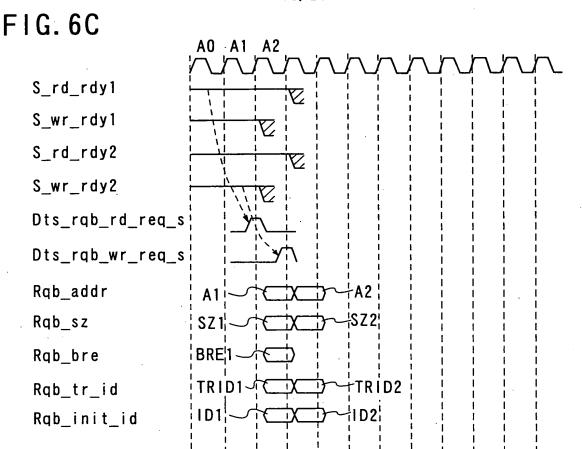
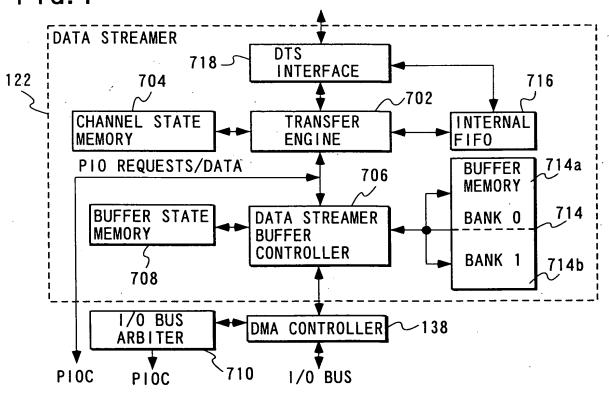


FIG. 7



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FIG. 8

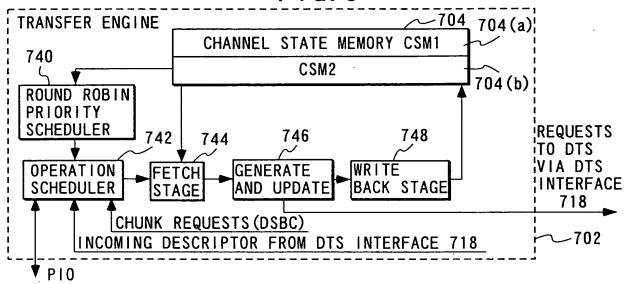


FIG. 9

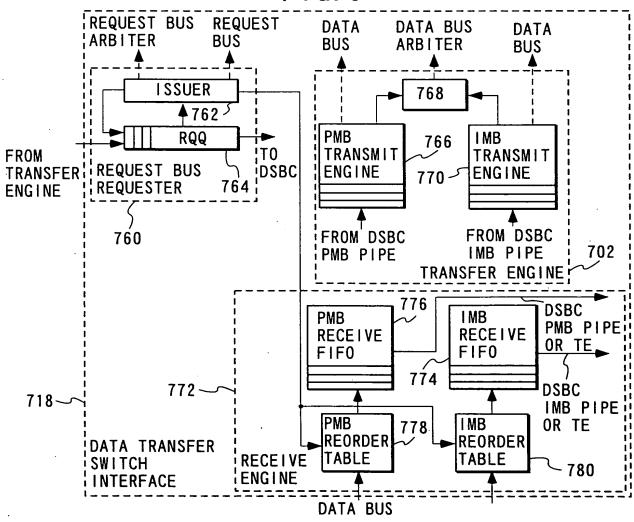
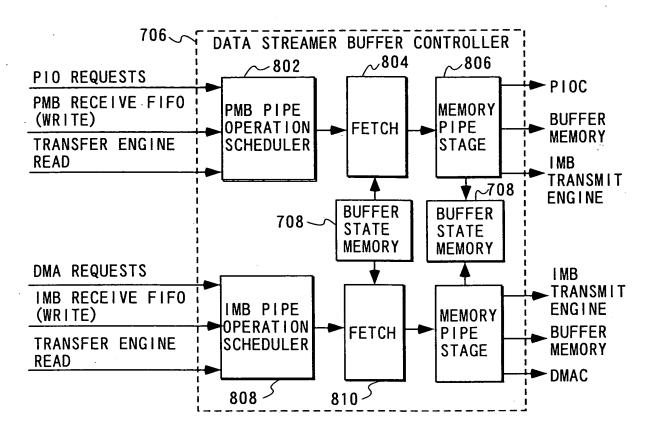


FIG. 10



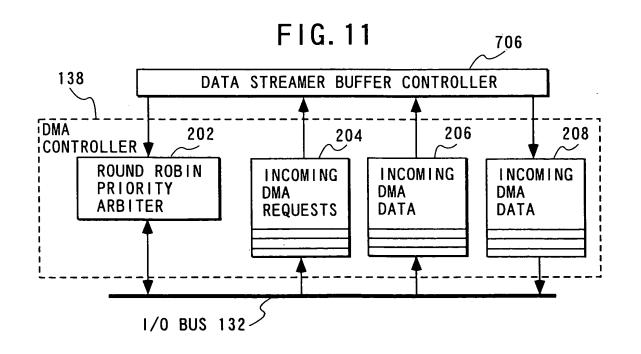
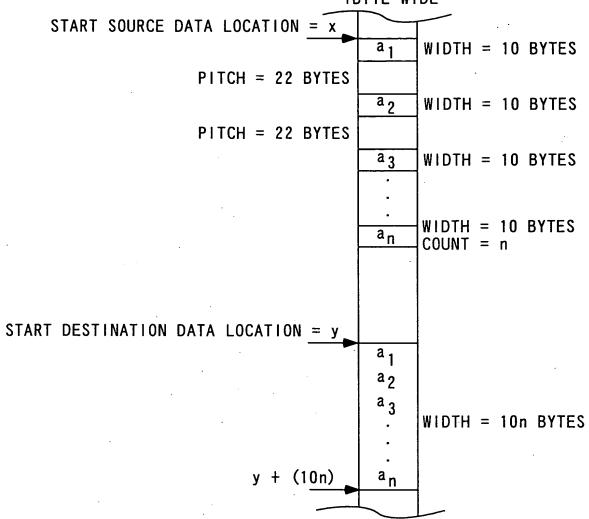


FIG. 12

#### RGB MEMORY ADDRESS SPACE 1BYTE WIDE





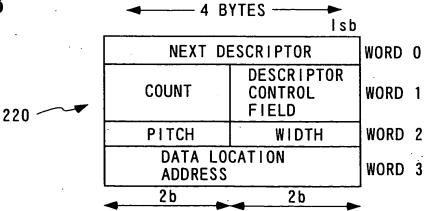


FIG. 14

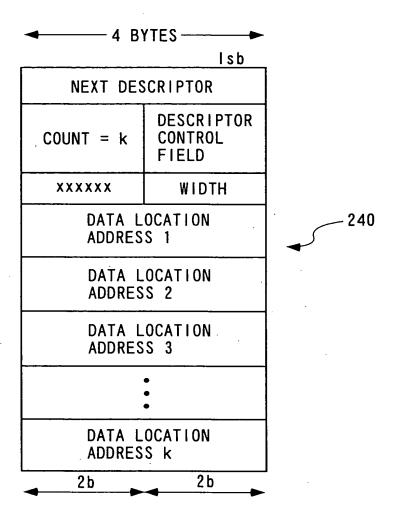
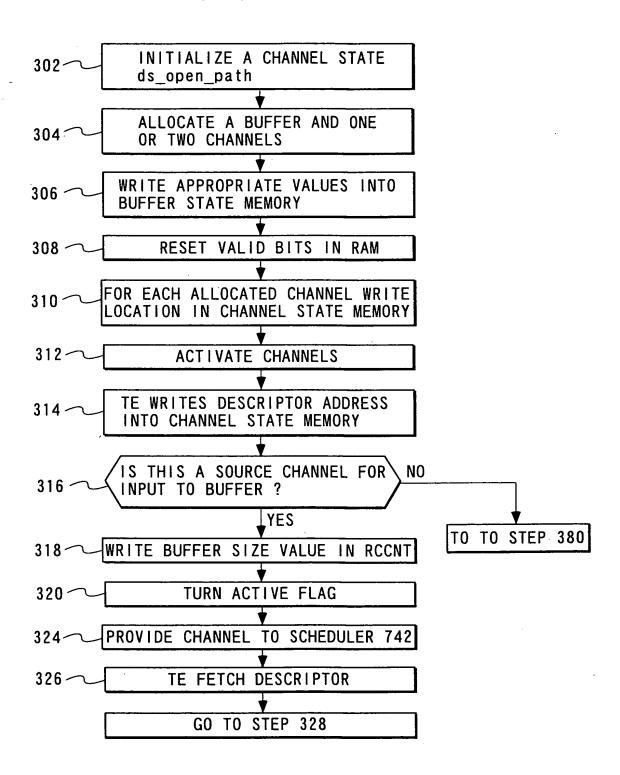
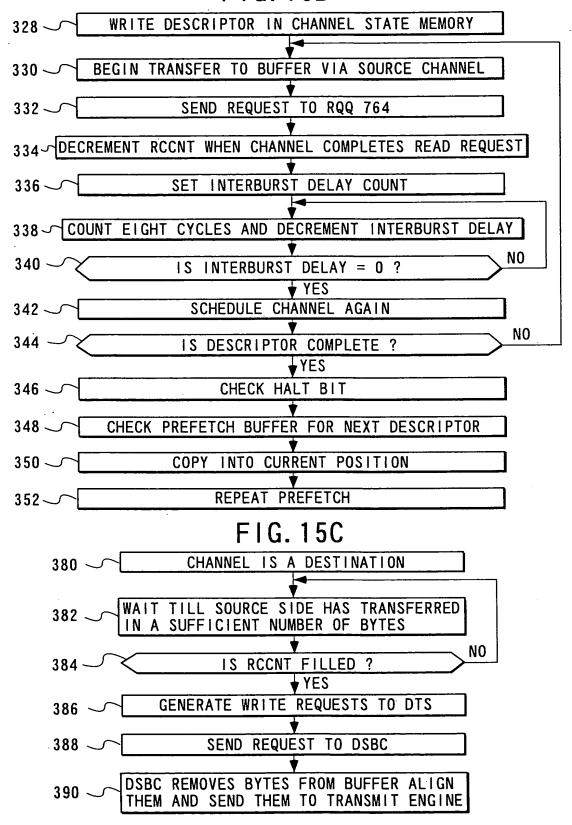


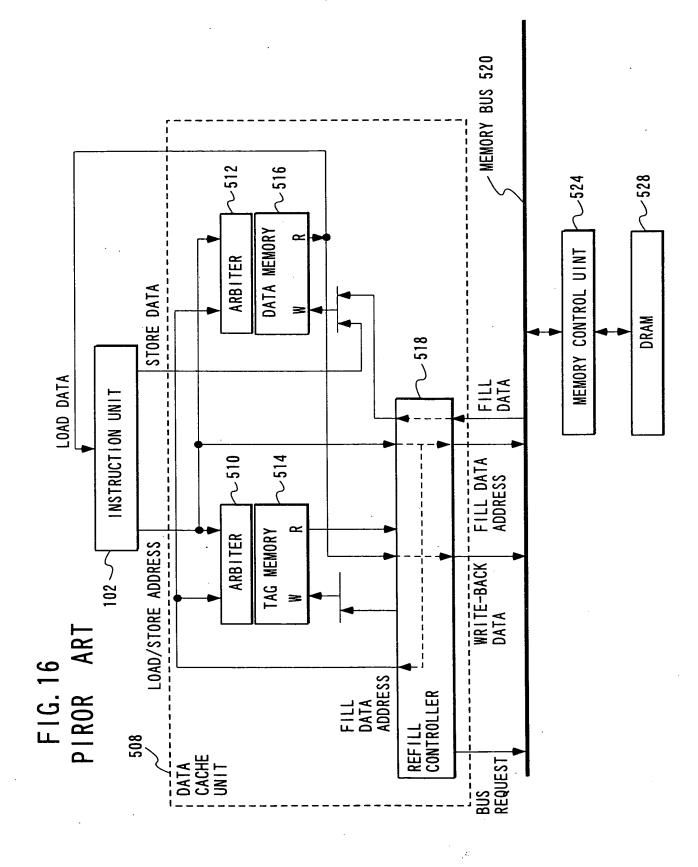
FIG. 15A



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#### FIG. 15B





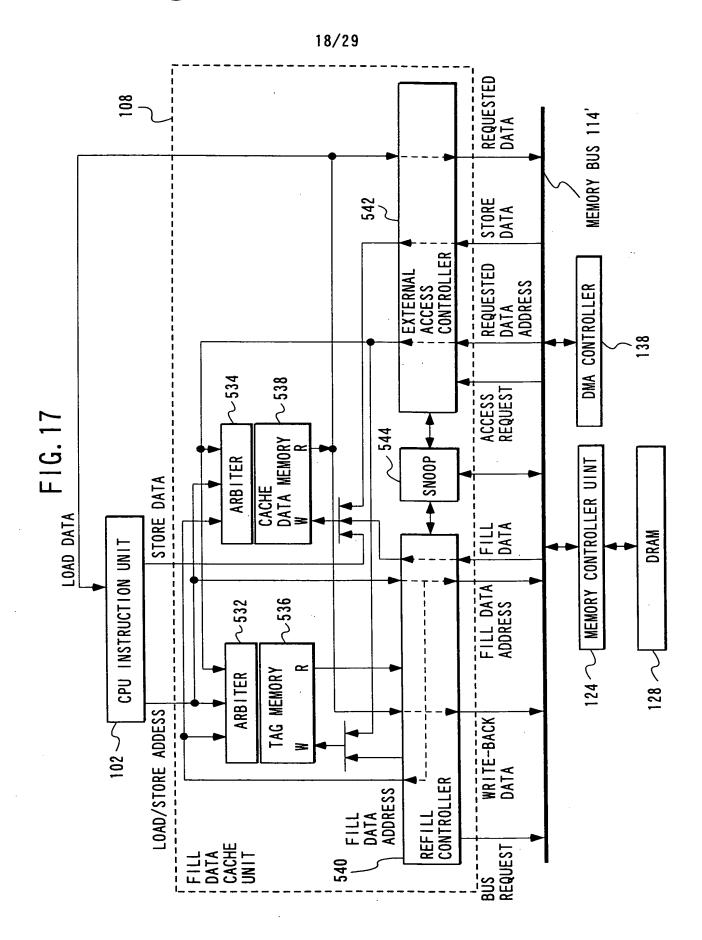


FIG. 18

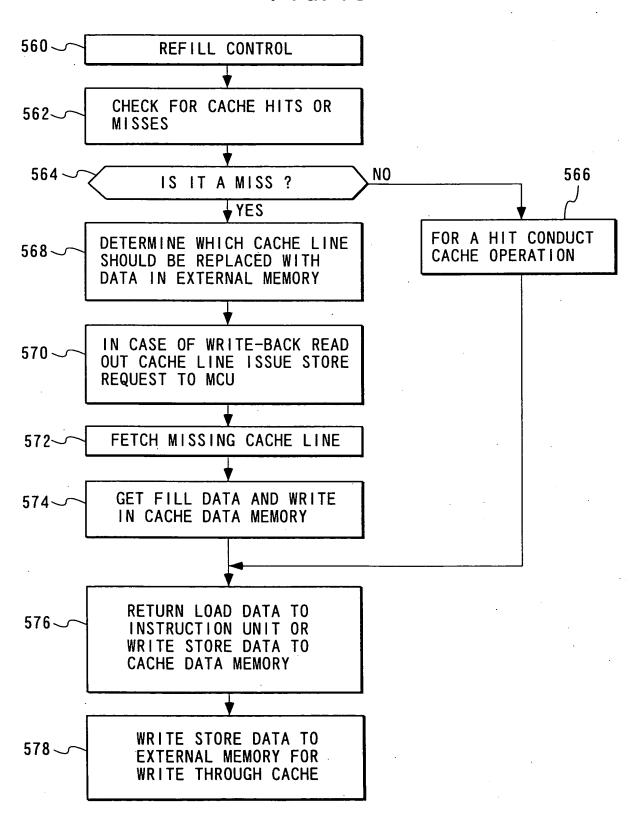
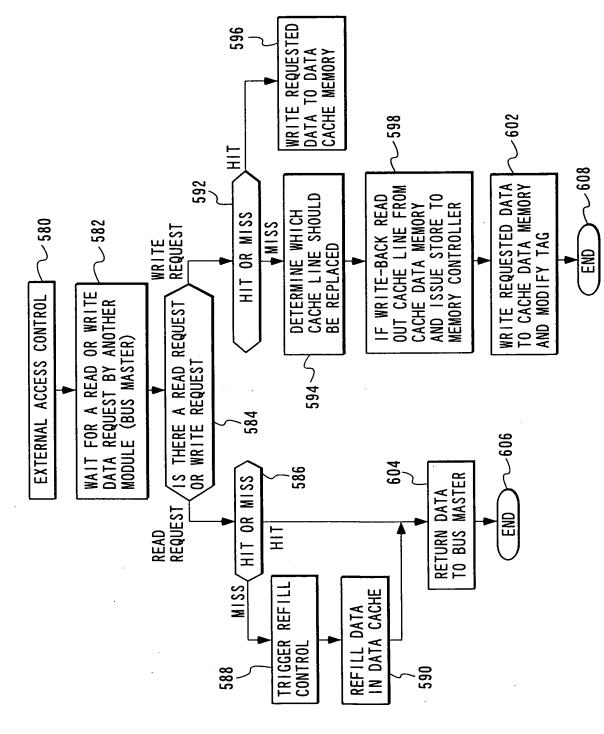
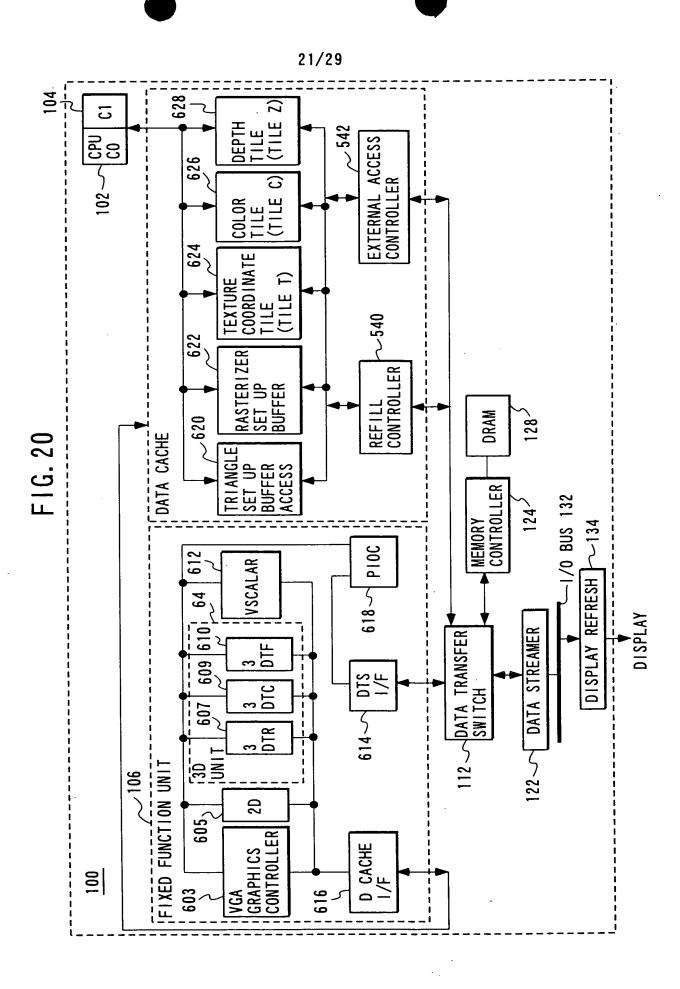


FIG. 19





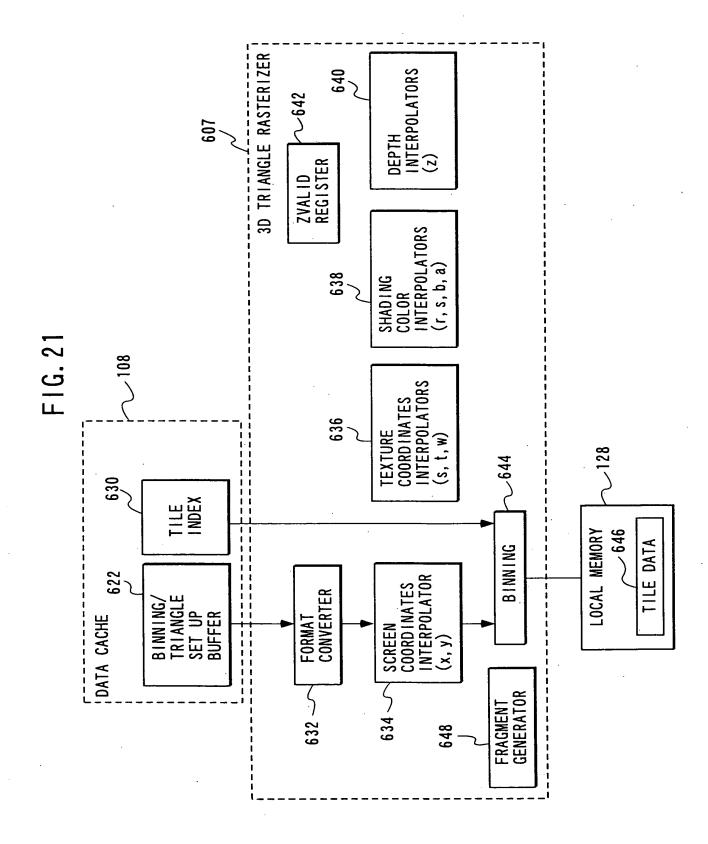


FIG. 22 108 DATA CACHE 628 650 622 624 626 **TEXTURE** COLOR DEPTH RASTERIZER FRAGMENT COORDINATE TILE TILE SET UP INDEX TILE (TILE C) (TILE Z) **BUFFER** (TILE T) <u>~\_\_607</u>  $\sim$ 642 3DTR FORMAT ZVALID 632 REGISTER CONVERSION 640 636 638 634 SCREEN **TEXTURE** SHADING DEPTH COORDINATES COLOR COORDINATES INTERPOLATORS INTERPOLATORS INTERPOLATOR INTERPOLATORS (z) (s, t, w) (r, g, b, a)(x, y)649 648 BINNING! FRAGMENT GENERATION 652 656 658 654 **TEXTURE** DEPTH OF COLOR OF COORDINATES **FRAGMENT FRAGMENT FRAGMENT** OF FRAGMENT (TILE Z LINK (TILE C (TILE T FRAGMENT) FRAGMENT) FRAGMENT) LOCAL MEMORY 128

FIG. 23

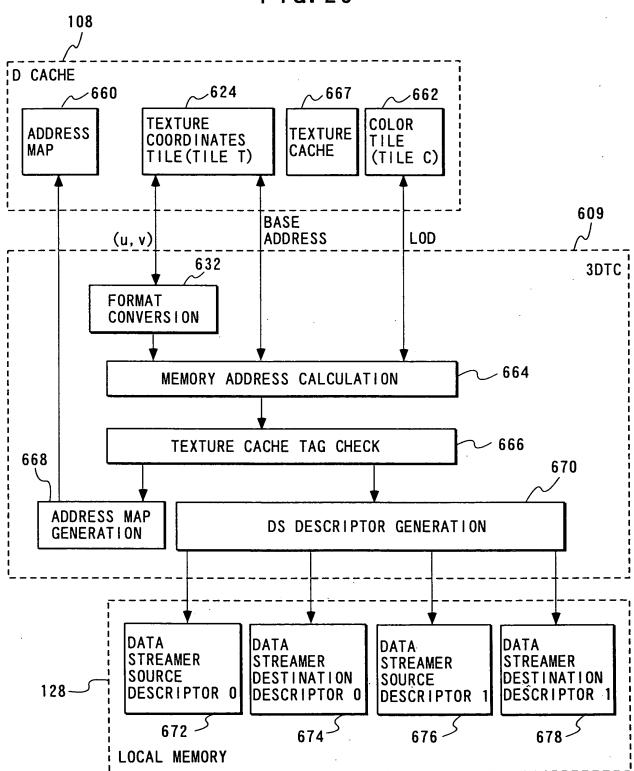
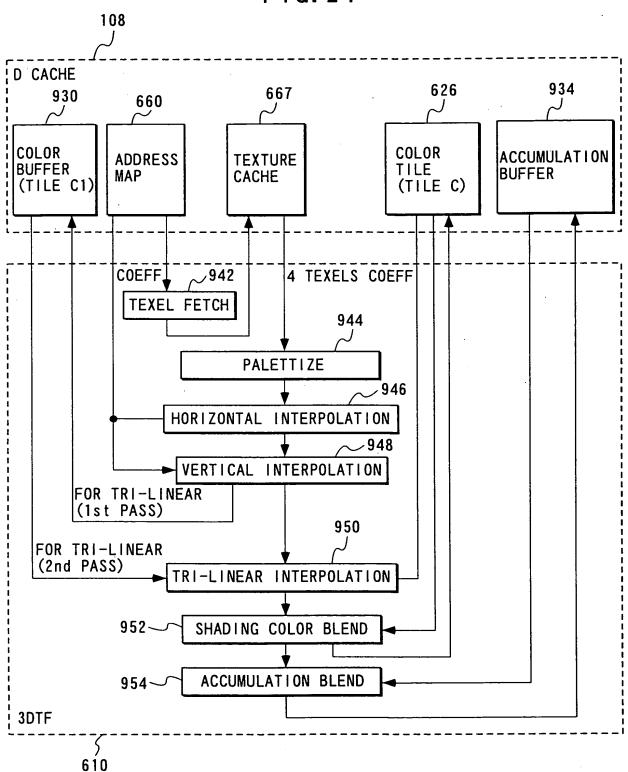
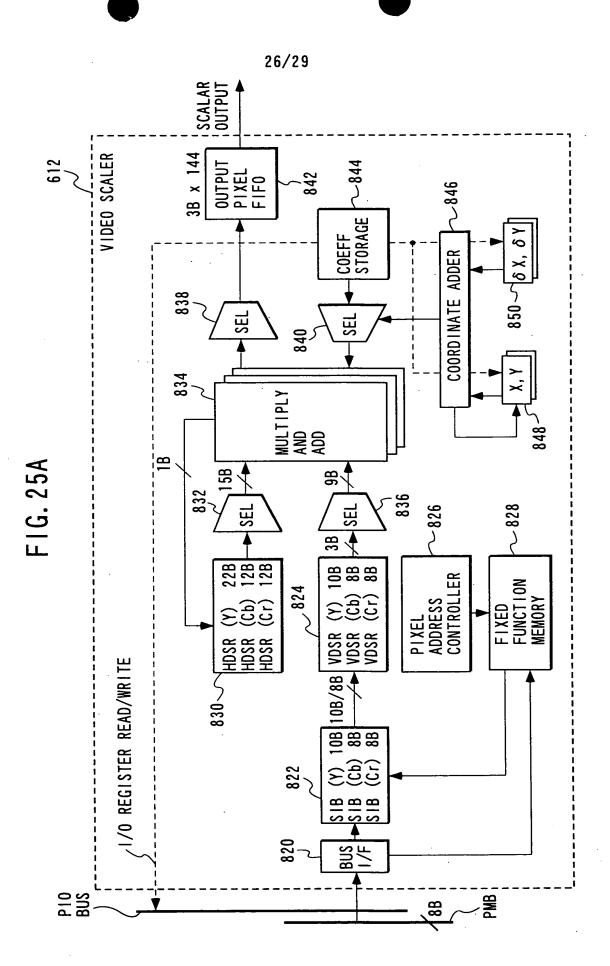
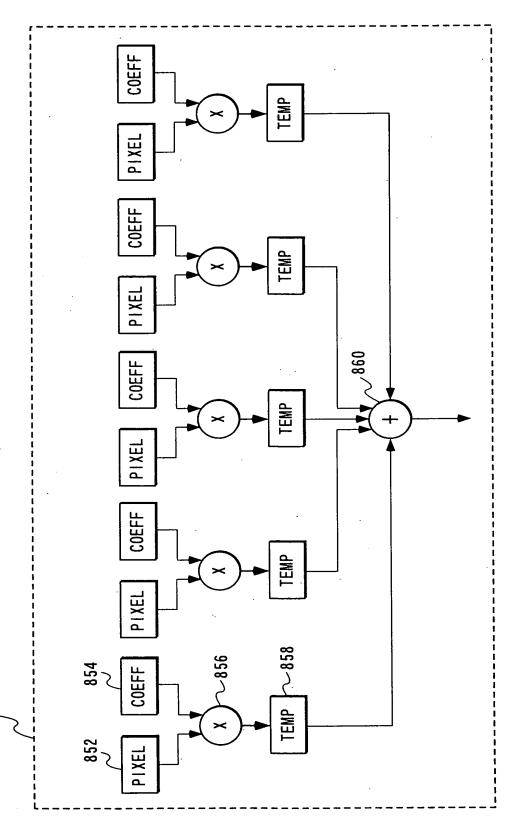


FIG. 24





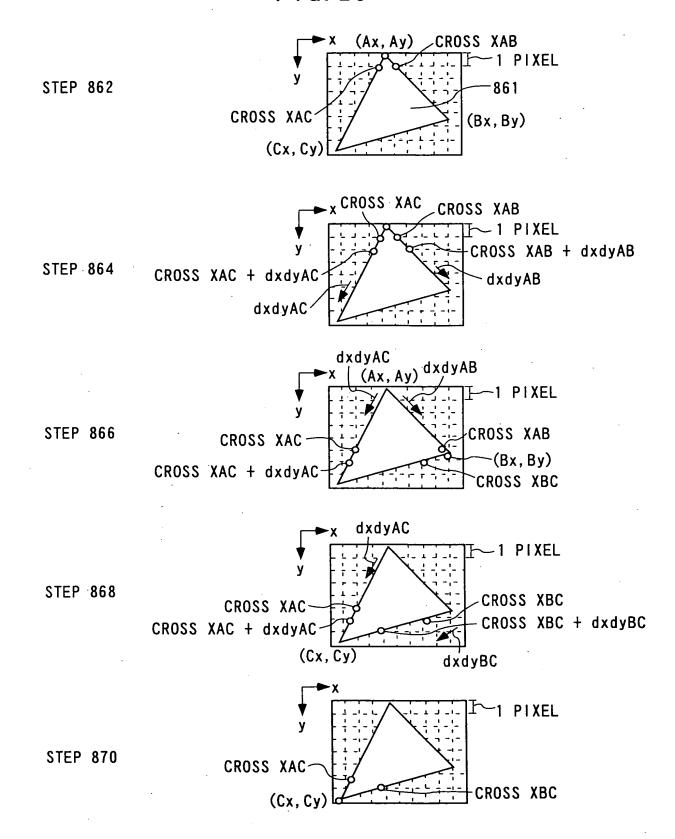
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FIG. 26



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# FIG. 27

GEOMETRY/LIGHTING FOR ALL TRIANGLES IN A FRAME, VLIW CALCULATES SCREEN COORDINATES, COLORS, AND BINNING PARAMETERS  880
ACTIVATE FFU IN BINNING MODE 882
DETERMINE TILE INDEX AND TILE DATA 884
FOR ALL BINS IN A FRAME PERFORM SET UP AND RASTERIZATION 886
FOR ALL TRIANGLES IN A BIN VLIW CALCULATES 888
TRIANGLE SET UP DATA
CALCULATE PARAMETERS FOR RENDERING X, Y, Z, RGBA, s, t, w FOR EACH PIXEL IN A TRIANGLE
ACTIVATE FFU IN INTERPOLATION MODE ~892
FOR ALL PIXELS IN A BIN VLIW CALCULATES u, v, FROM s, t, w 894
3D FFU CALCULATES TEXTURE ADDRESS WHEN 3D TEXTURE CONTROLLER UNIT IS ACTIVATED IN TEXTURE CALCULATION MODE
DATA STREAMER FETCHES TEXELS BY GIVING CALCULATED TEXTURE ADDRESS  **898
ACTIVE VIDEO SCALER TO PERFORM BI-LINEAR TEXTURE FILTERING >900
ANTI ALIASING 902
FOR ALL PIXELS IN A FRAGMENT VLIW CALCULATE u, v, FROM s, t, w 904
3D ACCELERATOR TEXTURE ADDRESS CALCULATION 906
ACTIVATE DATA STREAMER 908
DATA STREAMER FETCHES TEXELS 910
VIDEO SCALER PERFORMS TEXTURE FILTERING AND BLENDING ~912
STORE FRAME BUFFER ~914
DATA STREAMER TRANSFERS PROCESSED BIN TO LOCAL MEMORY 916
FND 918